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TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER	
NATALINI, JEFF WILLIAM	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/814,453
Filing Date: March 31, 2004
Appellant(s): REDDY ET AL.

Alan K. Stewart
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 5/24/06 appealing from the Office action mailed 12/6/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6535014	Chetlur et al.	3-2003
6522126	Hanai et al.	2-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Chetlur et al. (6535014).

In regard to claim 1, Chetlur et al. discloses processing a request for a voltage overshoot or undershoot (col 3 line 17-23, controllable as to produce and overshoot/undershoot when needed) to determine a plurality of inputs based, in part, on a plurality of waveform parameters (col 3 line 14-44, broadly interpreted the inputs may be the controllable voltages (if they are controlled the values must be

known/determined) Vdd and Vss (two is broadly interpreted as plurality) to determine the output of the VCO with amplitude and frequency (parameters)); applying the plurality of inputs to a waveform generation circuit (fig 1, Vcc and Vss are applied to VCO (12)); and generating a voltage waveform in accordance with at least one of the parameters (col 3 line 24-44; fig 1 also shows a waveform being produced, the oscillating test signal is produced to allow various parameters of for example a DUT to be measured).

In regard to claims 2 and 3, Chetlur et al. discloses wherein the waveform generation circuit comprises an overshoot and undershoot generation circuit, and the waveform parameters comprise voltage overshoot/undershoot parameters (col 3 line 16-32).

In regard to claim 4, Chetlur et al. discloses where the waveform parameter consists of a at least frequency (col 3 line 29-32 or col 5 line 6-8).

In regard to claim 5, Chetlur et al. discloses where the request comprises determining a frequency (frequency is controlled so it must be known/determined, the determined frequency value is shown in fig 5, y-axis).

In regard to claim 8, Chetlur et al. determines a voltage value to apply to a voltage controlled oscillator (abstract; fig 1, Vdd and Vss are applied to VCO).

In regard to claim 9, Chetlur et al. discloses where processing the request further comprises processing the request based, in part, on the characteristics of the waveform generation circuit (col 4 line 5-9).

In regard to claim 10, Chetlur et al. discloses where a circuit reliability model is generated for a device coupled to the waveform generation circuit (figs 3 and 4; col 5

line 28-39 (results using the test show that aging is more pronounced for certain values of Vbulk, aging represents reliability of the DUT).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chetlur et al. (6535014) in view of Hanai et al. (6522126).

Chetlur et al. determines a voltage value to apply (voltage is determined to be overshoot/undershoot-abstract, values seen in fig 3 and 4).

Chetlur et al. lacks wherein processing the request comprise applies the voltage value to a delay circuit.

Hanai et al. discloses determining a voltage value to apply to a delay circuit while testing semiconductor devices (col 2 line 66 – col 3 line 11).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Chetlur et al. to apply the voltage value to a delay circuit as taught by Hanai et al. in order to have a high speed waveform (col 3 line 8-11).

(10) Response to Argument

Appellant's argument focuses on claim 1, and then because appellant believes claim 1 to be allowable, claims 2-5 and 7-10 also should be allowable because they depend from claim 1. Appellant's argument of claim 1, states that Chetlur et al. does not teach, suggest, or show "processing a request for a voltage overshoot or undershoot to determine a plurality of inputs based, in part, on a plurality of waveform parameters; applying the plurality of inputs to a waveform generation circuit ...", but the main focus of the argument is to try and prove that Chetlur et al. does not teach "determining a plurality of inputs and applying the inputs to a waveform generation circuit" (lines 5-10 of the main argument paragraph). Accordingly, the main focus of the argument will be addressed first.

Normally in the art of measuring, testing, determining, or analyzing a claim will be specific as to what is being tested, measured, etc... For example "the input voltage is determined" or "the input current is determined" (pointing out what about the variable is determined). In this case the claim reads "processing a request for a voltage overshoot or undershoot to determine a plurality of inputs based, in part, on a plurality of waveform parameters", therefore it is unspecified by the claim as to what exactly about the input is being determined (not specified as a voltage value, a current value, an amplitude value so broadly it could be determined the inputs were high values, or low values, or were DC signals, or were AC signals- in these cases a determination about the input is still being made). Accordingly, the examiner must make a broadest reasonable examination about what is being determined. Because of this, Chetlur et al. discloses "processing a

request for a voltage overshoot or undershoot (col 3 line 17-23) to determine a plurality of inputs [the inputs are Vdd and Vss -shown in figure 1; referring to col 3 line 17-44, in controlling at least one of the inputs a waveform is generated by the VCO (fig 1-12) and this waveform is dependent on the values that were input into the VCO (col 4 line 1-3), therefore one of ordinary skill in the art is easily able to make a determination of the input signals based on the overshot or undershot oscillating test signal produced, and this determination of each input would at the very least be a low value, a high value, or an intermediate value - though on some occasions an exact value could be determined, for example if a flat line was produced by the VCO, the inputs would be zero or in the event the maximum overshoot was produced, Vdd would have to be 5 V (or whatever the highest differential on the circuit was made to be) and Vss 0 V] based, in part, on a plurality of waveform parameters (amplitude and frequency-col 3 line 17-31); applying the plurality of inputs to a waveform generation circuit (shown in figure 1, Vdd and Vss are input into the VCO-12, and a waveform is produced-shown in the middle of the box also explained in col 3 line 17-24). In controlling the first and second voltages to generate an oscillating test signal to have an overshoot or undershoot (col 3 line 16-23), it would be known to the controller (a user, a computer, etc...) that in order to generate an overshoot the differential between Vdd and Vss would have to be reasonably high (so a determination of values with a high differential is made to properly produce the overshoot), comparatively in order to generate an undershoot the differential would have to be reasonably low (determination of values with a low differential is made to properly produce the overshoot).

Also in another interpretation of the reference to read on "determining a plurality of inputs based, in part, on a plurality of waveform parameters" the multiplexer (fig 1-13) could select Vdd and separately Vss to measure (fig 1 shows outputs Vd/measure and Vss/measure) these electrical parameters through the circuit path (fig 1-11; col 3 line 33-53, with emphasis on lines 42-44), in this case the waveform overshoot or undershoot would still be produced by the VCO (and still read on "processing a request for a voltage overshoot or undershoot") it just would not be selected by the multiplexer during measurement of the inputs.

Accordingly, the examiner respectfully disagrees with the appellant's argument that Chetlur et al. does not show, teach, or suggest "processing a request for a voltage overshoot or undershoot to determine a plurality of inputs based, in part, on a plurality of waveform parameters; applying the plurality of inputs to a waveform generation circuit..."

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Conclusion: For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jeff Natalini

Appeal Conferees:

AHH

Andrew Hirshfeld

Darren Schuberg

ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800